



Published weekly for employees of Lawrence Livermore National Laboratory

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Security overview for congressmen

Representatives Terry Everett of Alabama and Silvestre Reyes of Texas came to the Lab Wednesday for an overview of stockpile stewardship work.

Everett is chairman of the Strategic Forces Subcommittee of the House Armed Services Committee, and Reyes is the ranking minority member of the subcommittee. Both representatives are also members of the House Permanent Select Committee on Intelligence.

The congressmen were accompanied by key staff members, including William Ostendorff, counsel of the House Armed Services Committee; committee staff members Hugh Brady and Joshua

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JACQUELINE MCBRIDE/NEWSLINE

From left: Ed Moses explains features of the National Ignition Facility target chamber to Representatives Terry Everett and Silvestre Reyes during a Laboratory tour.

2004 HOME Campaign sets new 'gold' standard with record \$1.6 million

By Don Johnston

NEWSLINE STAFF WRITER

With a strong surge to the finish line, the 2004 campaign for "helping others more effectively" brought HOME the gold by raising a record \$1.6 million for non-profit agencies with a record 3,720 employees, retirees and contractors participating in the campaign.



See HOME, page 7

Earthbound galaxy observations well grounded in adaptive optics

By Anne M. Stark

NEWSLINE STAFF WRITER

Using adaptive optics and a laser guide star at the 10-meter Keck II telescope, Claire Max has been able to figure out the location and role black holes play in two nearby galaxies.

Working with UC Riverside, UC Santa Cruz, UC Santa Barbara, UC Davis and researchers in the Lab's Institute of Geophysics and Planetary Physics, Max described on Monday how active black holes are fed mass in the cores of galaxies NGC 6240 and Cygnus A. Her

See DDLS, page 7

Lab helps Russia secure nuclear materials

By Stephen Wampler

NEWSLINE STAFF WRITER

Last week, Russian officials and representatives from the Department of Energy's National Nuclear Security Administration (NNSA) held commissioning ceremonies at two Russian uranium enrichment facilities to highlight the completion of security upgrades.

The work was performed under the Materials Protection, Control & Accounting (MPC&A) Program and LLNL staff members played key roles in the two projects.

On Wednesday, Dec. 8, a U.S. delegation headed by NNSA Deputy Administrator Paul Longworth participated in a ceremony at the

See RUSSIA, page 8

Lab's Anastasio and De Yoreo tapped for federal task force promoting nanotechnology

By Anne M. Stark

NEWSLINE STAFF WRITER

Director Michael Anastasio and Jim De Yoreo, director of the Lab's BioSecurity and Nanoscience Laboratory (BSNL) have been selected to serve on a task force to promote California as a nanotechnology hub.

Rep. Mike Honda (D-San Jose) and California State Controller Steve Westly will hold the first meeting of their Blue Ribbon Task Force on Nanotechnology today (Dec. 17). Anastasio will serve as an executive special adviser, while De Yoreo will serve as a task force member.

Honda has taken a lead role in drafting and passage of bipartisan nanotechnology legisla-

See NANOTECHNOLOGY, page 7

Bearing down on the holidays

Carolyn Staehle of the Tri-Valley Haven, an agency receiving donated items through the Lab's toy drive, selects a few teddy bears from a sea of stuffed animals.

See story, page 5.



JACQUELINE MCBRIDE/NEWSLINE



Schedules for the holidays
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From 'hill rat' to Lab rat
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Graduating with class
— Page 8



LAB COMMUNITY NEWS

Weekly Calendar

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Monday
20

A **Fidelity counselor** will be available to assist with assessing the current state of retirement accounts, learning how to diversify, planning asset allocation and identifying income strategies. Fidelity Investments Mutual Funds are available to UC's workplace retirement plan participants in addition to the UC managed investment pools. If you would like to set up a consultation with a Fidelity representative, call 800-642-7131. When calling, be sure to specify that you are an LLNL employee.

Wednesday
22

Christmas trees should be dismantled and removed from offices today for collection by Laboratory gardeners. The trees will be shredded and used as mulch. Before removing trees, remove lights, ornaments, stands and anything that is not biodegradable. Place trees away from buildings, out near the curb, but not in traffic areas.

• • •

Bring your holiday visitors to the **Lab's Discovery Center** to experience an array of science and technology displays about Lab history and current research. During the last two weeks in December, the Discovery Center hours will be modified in observance of the holidays.

Dec. 18 (Saturday)

10 a.m. to 2 p.m.

Dec. 20-22

1 to 4 p.m.

Dec. 23-25

Closed (for Christmas holiday)

Dec. 27-30

1 to 4 p.m.

Dec. 31-Jan 1

Closed (for New Year's holiday)

For more information, call 3-3272.

Up
&
Coming

Volunteers are needed to engineer the **Lab's National Engineers Day** scheduled for Friday, Feb. 25, from 9 a.m. to 2 p.m. in the Bldg. 123 auditorium and in the area across from the West Cafeteria. More than 500 students between the ages of 10 and 14 are expected to attend this year's event and participate in hands-on demos such as fuel cells, sunspots and "what's in a computer," among other activities. Jeff Wisoff, NASA astronaut and Lab engineer, will deliver this year's keynote address. For more information, contact Arden Andersen, 2-9512, or Dave Sopchak, 2-2240.

Send calendar information by Wednesdays noon to Linda Lucchetti, lucchetti1@llnl.gov

IN MEMORIAM

James Richard Boyd

James Richard Boyd of Livermore died Nov. 20. He was 68.

Boyd was born in Columbus, Ohio, on Dec. 11, 1935. He served in the U.S. Navy for four years and moved to Livermore in 1961.

He worked as a buyer for the Laboratory for 31 years before retiring in 1991.

He was a member of St. Michael's Church, a member of the Livermore Heritage Guild and most recently served as co-president of the

Retired Employees Association, chapter 075.

He enjoyed fishing, coin and stamp collecting and reading. He also was a devoted San Francisco 49ers and Giants fan.

He is survived by his daughters, Karen Couto and her husband, Wayne, of Pleasanton and Anita Shaw and her husband, Charles, of Alameda; his aunt, Sheila Gizler of Ohio; and several cousins.

Services have been held.

Howard Paul Spracklen

Retiree Howard Paul Spracklen, an engineer, died Nov. 9. He was 79.

Spracklen came to the Laboratory in 1958 and worked at LLNL for 24 years. He worked in the Instrument Shop, the Cycletron building, the Cockroft-Walton accelerator and the Livermore Pool-type reactor (LPTR), where he installed and maintained reactor control system. Spracklen also designed a system for accurately measuring the power output of the

reactor by counting the N-16 gamma rays. In 1965, he redesigned the reactor's safety systems.

When the LPTR was decommissioned, Spracklen went to work in the Radiochemistry Division and worked there until his retirement. After his retirement, he continued to work as a consultant to the Lab for seven years.

Spracklen is survived by his wife, Myrtle, and son, Jay.

Jack Dean Thompson

Jack Dean Thompson of Modesto died at his home Nov. 16. He was 77.

Thompson was a native of Nicholls, Ga., and lived in Modesto 21 years. He was a print room operator at the Laboratory for more than 20 years. He was a Navy veteran of World War II. He was a member of the Church of Jesus Christ of Latter-day Saints, 8th Ward. He enjoyed genealogy and music.

He is survived by his wife, Dora Lee Smith

Thompson of Modesto; children, Dan Thompson of Boulder Creek, Matthew Thompson of Turlock, Ron Thompson of Felton, Diana Gilmore of Modesto, Janet Wing of Oak Run, Mary Chappell of Riverbank and Martha Lofgran of Vacaville; brother, John Thompson of Shertz, Texas; sister, Betty Van Den Berg of Fresno; nine grandchildren and three great-grandchildren.

Services have been held.

Holiday schedules at Laboratory, Site 300 and cafes

The Laboratory will be closed Dec. 23, 24, 30 and 31 for the Christmas and New Year holidays. Site 300 will be closed Dec. 22-24 for the Christmas holiday and Dec. 29-31 for the New Year holiday.

Eurest Dining Services will provide modified food service on Dec. 20-22 and Dec. 27-29. At the Central Café, all food services will be open

except the Menutainment food station. At the West Café, all stations will be open except the Villa Fresca and Origins food stations. The South Side Java Wave & Outtakes will provide regular service Dec. 20-22 but will be closed on Dec. 27-29.

The Laboratory, Site 300 and all cafes will reopen with normal service on Monday, Jan. 3.

Newsline takes a break over upcoming holidays

Today's edition of *Newsline* is the last of 2004. *Newsline* will resume publication Friday, Jan. 7, 2005, with its annual 'year-in-review' issue.

Regular editions with classified ads will resume Jan. 14. Ads submitted through Jan. 4 will appear online. Only ads submitted between Jan. 5 and Jan. 11 will appear in the Friday, Jan. 14 *Newsline*.

Newsline

Newsline is published weekly by the Internal Communications Department, Public Affairs Office, Lawrence Livermore National Laboratory (LLNL), for Laboratory employees and retirees.

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AROUND THE LAB



Laboratory experience provides new vistas for ‘hill rat’

For the last six years I have worked as a congressional liaison for Lawrence Livermore to keep Laboratory staff informed about key legislation in Congress and to respond to congressional inquiries about the Laboratory. Before coming to the Livermore, I had been a longtime Capitol Hill staffer or what some people in Washington refer to as a “hill rat.” My position at Livermore was my first job outside of Washington D.C. and my first job outside of Congress. Working at the Laboratory was a very different experience for me and it changed my perspective on many things.

Before I leave the Laboratory on Jan. 3, I thought I would share some of the lessons I have learned from my time at the Lab.

- The demographic and political center of the Lab is the Livermore area and the Central Valley, not San Francisco. Speaker Tip O’Neill was famous for saying “all politics is local.” Members of Congress believe this so strongly that many are reluctant to visit locations outside of their districts.

One of the first things I did when I arrived at the Lab was to pour over data on where people at the Lab live. The main site and the homes of most of the Lab’s workforce of course are in the district represented by Congresswoman Ellen Tauscher, who is a very strong supporter of the Lab. The data also revealed that a growing number of the Lab’s workforce lives in the

PERSPECTIVES

– by Kathy Cromwell

‘Perspectives’ is an occasional column written by Laboratory employees.



Central Valley. That led me to work to increase the Lab’s outreach to members of Congress representing the Central Valley, most notably Rep. Richard Pombo, whose district contains Tracy and parts of the Tri-Valley, and who also is a very strong supporter of the Lab.

- People at the Laboratory do not view Washington as the center of the universe. During my first year at the Lab I told an unnamed employee that testifying in front of Congress might be the high point of his career. His response was, “Hardly — We take bombs apart... Being beaten up by people wanting soundbites is not my version of career high points.” I’ve kept his e-mail message taped to my computer monitor for the last five years to help me develop a more rational outside-the-Beltway perspective. However,

er, I admit that I still get excited watching C-SPAN.

- People like myself, who join the Lab in mid-career, bring a useful if somewhat diverse perspective, but they need help to understand the culture. My work at the Laboratory was made easier by many people here, especially those who took time to explain such curious traditions as why Q badges are green even though they are blue. I’d like to especially thank the Long Range Study Group and the still officially unnamed ad hoc group of Laboratory women scientists and engineers for helping bridge the cultural divide. The Lab has a number of high-profile people who recently joined at senior positions. I hope that many of you will take the initiative to invite them to lunch and explain a few Lab mysteries to them — including things like what is behind the strange ritual of turning orange bikes upside down.

Finally, I want to thank the Laboratory Executive Officer team - Christie Schomer, Ron Cochran, Phyllis Cretsinger and Merry O’Brien. They are an exceptionally talented group of people. I feel blessed that I have had the opportunity to work with them and all the other brilliant and hard working people at the Lab.

The congressional liaison position Cromwell is leaving will be posted. Anyone interested in more information about the position should contact Ron Cochran’s office, 3-4124.

Workforce reviews set for early 2005

Workforce reviews for the 2004 calendar year will be held throughout January and early February 2005, Director Michael Anastasio recently announced.

“These reviews continue to be an important tool for ensuring our overall capability for mission success and for reviewing the efficacy of our workforce management practices,” Anastasio said in a memo announcing workforce reviews.

This year, the director is asking that a significant portion of each presentation focus on employee develop-

ment, with particular emphasis on what’s being done to ensure current and future leadership capability at each management level.

Workforce reviews also will include a discussion of critical skills for directorates with critical skills employees (defined as “Defense Program Workers” for National Nuclear Security Administration purposes). The focus will be on the status of each directorate’s critical skills population and what’s being done to ensure ongoing ability to meet the Lab’s stockpile stewardship mission.

LBNL RFPs due early February

The Department of Energy released a final Request for Proposals (RFP) Wednesday for the competitive selection of a management and operating contractor for Lawrence Berkeley National Laboratory (LBNL).

A draft RFP was issued Oct. 15 for public comment and a comment workshop was held in the Berkeley area. The RFP describes the criteria DOE will use in selecting a successful future contractor. The current contract with the University of California expires on Jan. 31, 2005. An extension of the current agreement past that date will be required to complete the selection process and execute a new contract.

The RFP is publicly available at

the Industry Interactive Procurement System (IIPS) on the DOE e-Commerce Website: <http://e-center.doe.gov>. In addition, an information library regarding the solicitation is available on the DOE Office of Science Website at <http://RFPLBNL.sc.doe.gov>. Questions on the RFP should be submitted to the “Submit Questions” feature on IIPS by Jan. 5. Responses to questions and other information about the RFP also will be posted to this site.

Proposals are due Feb. 9 and will be reviewed by a Source Evaluation Board of DOE technical and business experts. DOE will conduct a pre-proposal conference on Jan. 12, starting at 8:30 a.m. in the Edward R. Roybal Auditorium, Oakland Federal Building, 1301 Clay St.

Using technology that’s hot

Mike Bradley (right) was recently honored by the Diablo Fire Safe Council (DFSC). Incoming DFSC President Steve Abbors, manager of Watershed and Recreation, East Bay Municipal Utilities District (left), presented Bradley with the DFSC “Window on the Future Award” in appreciation of “his fire safety efforts with new technology.” The ceremony was held during a DFSC meeting at Merritt College in Oakland. Bradley led the Lab’s portion of the Wildfire Behavior Prediction Initiative, a collaborative effort by scientist teams at Lawrence Livermore and Los Alamos national laboratories. The project was funded by the two labs’ Laboratory Directed Research and Development programs. The Lab’s team proved the feasibility of physics-based wildfire behavior prediction by accurately simulating the weather and fire behavior for the early stages of the 1991 East Bay Hills wildfire.

PHOTO COURTESY OF DAVID SHAFFER





NEWS YOU CAN USE



JACQUELINE MCBRIDE/NEWSLINE

A fond farewell to Glenn Mara

Former Deputy Director for Operations Glenn Mara felt the heat from several of his Lab colleagues Thursday during a special roast in honor of his retirement. NIF Program Manager Ed Moses invited Mara to test his welding skills (Mara is trained as a welding engineer) by donning coveralls and a welder's mask. Also speaking at Mara's retirement were Director Michael Anastasio, former Deputy Director Bob Kuckuck and former ADs Dick Fortner and Den Fisher.

2004 a banner year for the Jasper two-stage gas gun

By David Schwoegler
NEWSLINE STAFF WRITER

Mercury, Nev. – Calendar year 2004 witnessed a record 15 successful shots at the JASPER two-stage gas gun in Area 27 at the Nevada Test Site. The JASPER team, consisting of 15 employees at the Livermore site and 20 more at NTS, fired a successful shot in every calendar month, except February and August. And there were four successful firings in September alone.

The most recent experiment occurred Dec. 14. That was the eighth plutonium (Pu) shot this calendar year, the 11th Pu experiment in the series, and the 38th shot since the gun became operational in March 2001.

More remarkably, that day JASPER scored another major first. Using a new Livermore-developed impactor technology, the team used a bullet to create the first isentropic compression on a Pu sample. This method allows the JASPER team to investigate Pu at pressures and

densities previously inaccessible to experiment.

Acting Test Director Mark Martinez characterizes the gas gun's capabilities as unique. "Shots cost more than an order of magnitude less than a sub-critical experiment, while providing the very best equation-of-state data and encompassing a wider range of conditions," he said.

Martinez explained that although JASPER is an economic and scientific success now, prior to startup, "substantiating the safety basis consumed a substantial effort, while the biggest technical challenge was proving a sufficient margin for plutonium containment during a Pu shot."

Chief scientist Neil Holmes heads JASPER's shock-physics experiments that study how materials — especially plutonium — behave as a shock-wave passes through them. Holmes explained, "Specifically, JASPER's main goal is to measure plutonium's equation of state (EOS). EOS is

the relationship between the pressure, density and temperature of plutonium at extreme conditions that encompass millions of atmospheres pressure, and temperatures in thousands of degrees Kelvin. JASPER uses shock waves generated by high-velocity impacts to achieve these extreme conditions."

According to Holmes, plutonium EOS data is a crucial requirement in stewardship. The JASPER EOS input compliments shock-physics data produced by the subcritical experiment series and by the National Ignition Facility.

Holmes said there is a comprehensive plan for experiments reaching over the next decade. "JASPER will be performing novel experiments with new diagnostic methods never before applied to plutonium investigations," he said.

Asked to summarize JASPER's performance to date in a single sentence, Holmes said: "It only takes one word: outstanding."

Technical Meeting Calendar

Dec.
17

INSTITUTE FOR GEOPHYSICS AND PLANETARY PHYSICS
"Carbon on Mars: Reservoirs, Processes, and Implications for Biosignatures," by Laurie Leshin, Arizona State University. Noon, Bldg. 319, room 205. All attendees need to be badged. Contact: Wil van Breugel, 2-7195, or Sharon Taberna, 3-6290.

Jan.
6

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH
"Weakly Supervised Learning Methods for Information Extraction from Narrative Text," by Ellen Riloff, University of Utah. 10 a.m., Bldg. 451, room 1025 (property protection area). For more information, go to

<http://www.llnl.gov/casc/calendar.shtml>. Contact: Terence Critchlow, (CASC) 3-5682, or Leslie Bills, 3-8927.

Jan.
10

PHYSICS AND ADVANCED TECHNOLOGIES, N DIVISION
"Shifted-contour Approach for Shell Model Monte Carlo Method," by Guergana Stoitcheva. 2:30 p.m., Trailer 2128, ballroom. Contact: Erich Ormand, 2-8194, or Annette Cook, 2-7856.

Jan.
11

PHYSICS & ADVANCED TECHNOLOGIES DIRECTORATE-WIDE SEMINAR
"X-ray FELs and High Energy Density Science," by Richard W. Lee, V Division. 2 p.m., Trailer 2128, conference

room 1000 (CUF). Contact: Alan J. Wootton, 2-6533.

Jan.
18

PHYSICS AND ADVANCED TECHNOLOGIES, N DIVISION
"Gamow Shell Model Description of Exotic Nuclei," by Nicolas Michel. 10:30 a.m., Trailer 2128, room 1000. Contact: Erich Ormand, 2-8194, or Annette Cook, 2-7856.

The deadline for the next Technical Meeting Calendar is noon, Wednesday.

Please submit your meetings via the new Technical Meeting Calendar form on the Web, located at <https://www-r.llnl.gov/tmc>



Toys drive Lab effort

This is the 13th year that Lynn Groves of B Division has coordinated a holiday toy drive at the Laboratory. The money to purchase the hundreds of games, dolls, basketballs, and baseball gloves comes from the well established B Division book sale that Groves organizes twice during the year, plus other fundraisers. This year, approximately \$10,000 was raised, making it possible to purchase some 1,000 toys.

Sure, it's a lot work, admits Groves, managing the book sales, shopping for items throughout the year, and then finding storage spot, but Groves smiles and says "I don't mind the work; I do it for the joy of it. It's the end result that's important."

The fruits of her labor are realized every year at this time when invited agency representatives from the Tri-Valley and surrounding areas arrive at the Lab in trucks and vans, ready to scoop up the wide assortment of items intended for the many needy children in their programs. The toys make it possible for about 1,000 children to have a brighter Christmas.

This year, six agencies participated: Children's Hospital in Oakland; Tri-Valley Haven; Western Farm Workers Association; Council for the Spanish Speaking; the Alameda Center for Child Abuse; and, the San Joaquin Residential Drug Rehabilitation Program (RDP).

The agencies provide to the community a valuable variety of services that assist an increasing number of adults and children who are victims of domestic violence and neglect, as well as run programs to place children in foster homes, help migrant farm workers and conduct drug rehabilitation.

The agencies are thrilled and appreciative to receive the donated toys. Fonda Hill, representative from the San Joaquin Residential Drug Rehab Program (RDP) presented a thank-you card to Groves from residents who will be receiving the toys that they will give to their children. "Life is a journey. In my journey came Lawrence Livermore National Laboratory. We clients at RDP thank you all for your wonderful support and for letting us give our children Christmas."



Photos by Jacqueline McBride
Newsline

Top: Irene Dias (left) and Shirley Emmrick (far right) look on as Lynn Groves (center) accepts a thank you card from Fonda Hill of the San Joaquin Residential Drug Rehab Program (RDP).

Middle: Hundreds of toys were collected during this year's toy drive and distributed to six local agencies, making it possible for about 1,000 children to have a brighter Christmas.

Left: Agency representatives packed their vehicles with various toys and games.



JerriAnn Gordillo-Marty (left) and Cara Schopplein of the Lab's UNCLE Credit Union branch help collect toys. You can still participate in the UNCLE Credit Union Salvation Army Angel Tree Tag campaign for needy children. Choose an Angel Tag from the tree, purchase the item listed and return the gift to the branch unwrapped with the tag attached. Gifts will be accepted until Dec. 22.



CLASSIFIED ADS

See complete classified ad listings at
<https://www-ais.llnl.gov/newsline/ads/>

AUTOMOBILES

1995 - Honda Odyssey EX. Great cond. 140K mi. ABS, CC, PW/PL/RA, sun roof, AC, AM/FM cass. Asking \$5500. 925-485-0760

1997 - Ford Thunderbird. V6,87k miles,silver,runs great, 2 door, AT, AC. \$4200/OBO 510-635-2978

1990 - Chev Astro Van, 180K miles, AT, \$1500 209-833-6452

2000 - Honda Odyssey Ex Navigation System, Captains Chairs, A/C, premium sound, cruise, new tires. \$13,500 obo 925-292-0091

1992 - Toyota Corolla. Runs great. 203K miles. Good for basic transportation. Cracked windshield. \$1000. 925-606-0260

2001 - Ford Expedition 4X4, 5.4L, A/T, all power options, adj pedals, & extras, CD, key less entry, rear air, extended warranty, 65K, \$16,500 OBO 209-293-1267

1994 - Chevy Suburban Silverado 4WD, great cond., all leather, loaded, rear air, 187K freeway miles, \$6500/OBO 209-814-1322

1997 - Thunderbird excellent condition in & outside, 27K miles, 3 year extended warranty. 510-582-2938

1993 - GMC Jimmy,2w/d, power everything,4door,a/c, leather, tow pkg. roof rack, clean body, needs tune up, \$2500 obo. 209-833-7358

2000 - Toyota Echo 4 door very good condition. Only 43,500 miles. Excellent commuter car! \$7500 209-835-9295

1939 - Ford deluxe coupe. 350/Turbo 400, BellTech axle/disk, Halibrand rear. Rollbar. Strong runner! \$20k 925-606-8763

1992 - GMC TYPHOON, rare, white/grey cladding, turbo,alarm, needs some TLC, KBB value is \$14K, first \$9,000 takes it as-is 925-455-6174

1999 - Acura Integra LS Coupe, \$9400, 44,000 Miles, 5 Speed, White, AC, Power Windows, Power Steering, AM/FM Stereo with CD, Moon Roof 925-245-0641

1987 - Toyota Camry, ~140K mi. Car has been in the family since it was brand new. \$850 firm. 925-456-0670

1998 - Chevy Cavallier, 4 door, AT, 88,500, Red, sweet X-mas present, very well cared for. 3000.00 209-835-9673

AUTOMOBILE ACCESSORIES

Cargo carrier, hitch mounted, 22 inch x 56 inch. Fits on

back of vehicle w/standard 2 inch receiver. Paid \$60. New in box, \$30. 925-648-0671

Camper shell fiberglass for 98 Ford F150 ext cab short bed insulated tinted windows rear light 400.00 209-531-1330

Truck Equipment Fifth-wheel V tailgate. Used on 91 Ford 250. \$75.00 Good shape. 925-447-9211

BICYCLES

Baur X4 Bike Carrier \$140.00 925-757-2166

BOATS

17.5ft Fisher FS 60hp mariner, rmt tilt & trim,walkthru windshield, 24v trolling mtr, 2 fishfinders,pedestal seat.seats 6 swim step.\$6100 925-872-6111

CAMERAS

Nikon F-100 body only. (Black) Excellent condition. Asking \$479.00 650-348-8872

ELECTRONIC EQUIPMENT

17 inch GEM flat LCD monitor, built in speakers, perfect cond. less than 1 yr old, \$225 925-980-9336

Home stereo system, TEAC, receiver, tape deck, CD deck, speakers, nice starter system, \$150 925-447-5194

MGX amplifier, excellent condition. Sony equalizer, Pioneer CD changer (6 disc), both good condition. Make offer. 925-443-2173

GIVEAWAY

Kenmore refrigerator/freezer. 20 CF Almond color with freezer on top. Works good. No longer used due to new purchase. You pick up. 209-832-5506

2004 - Free: Stack of used Dunlop rear motocross motorcycle tires, 100/90-19. Tires have a few races on them, but still lots of use left in them. 209-824-2177

HOUSEHOLD

Estate Thomasville, Camille Collection: Fill your dining room for 6, library, livingroom and king size master suite. Must see! \$5,000.00 209-835-9081

Amana glass cooktop, GE spacemaker microwave, Maytag 24in selfcleaning double oven. All less than 15 yrs old, excel condition. \$100 each 925-449-9294

Oak Desk with return. Can email pics and dimensions. \$125/bo 209-403-4942

Victorian Rocco Love Seat Settee \$1800, Wicker ChaiseLounge \$30, Glass &

Drift wood coffee table \$100, Antique Wicker table \$50 209-835-3352

Qs bed with ETs, dresser, ofc desk & chair, sofas in good condition -- all for \$575 OBO 626-590-6565

GE REFRIGERTOR in Excellent Shape. 21.7 cubic feet. Freezer on top. Color: Almond. \$150.00 or BO. 925-455-1730

19 inch color TV with remote. Like new, hardly used. We have too many TVs. Will bring it to work if interested. \$30.00 510-537-7222

Green and white stripped corner sectional with queen sized hideabed, excellent condition \$200.00, request picture. 510-278-8608

Lvg Room, Coach, Love Seat, Chair w/ottoman, 3 small tables, Brass Lamp \$375 Queen Size Bed, night stands \$150. Must sell - relocation 925-373-3515

Kitchen table, solid oak,42 wide x 72 long, including 1 leaf, 4 oak chairs with firm padded fabric,\$300 or BO. 925-447-2508

Socket Set, Craftsman 3/4 drive, large selection of sockets, like new, just in time for Christmas... \$125 925-447-5194

Crib (2001 Pali - birch) incl. side rail for toddler conversion, mattress, pad (pd \$500) \$150 or BO. Will deliver (if nearby) and assemble if needed. 925-455-8823

3 complete youth bedroom sets, like new and great prices 925-640-2625

\$25 each - Cal King Platform maple, low, bed. 2 dressers dark wood, one 5 draw tall spanish style, 1 6 draw long style. 925-455-8455

LOST & FOUND

Found bike cable to lock bicycle in 383 locker room 925-699-6064

MISCELLANEOUS

Lava Lamp, works great, blue w/ black base, \$25 obo 925-922-0821

Mig Welder/wire feed Lincoln SP_125 Plus. Up to a 1/4in thick material. Complete tank & cart \$400. 209-835-3352

Rigid 36in wide 10in Table Saw new \$480 (pd \$600), Delta Planner/Joiner 7X46in table \$250, Sears 10in Radial Arm saw \$220, Shopsmith \$300 209-835-3352

Welding outfit-Airco regulators, welding and cutting torchs, full size acetylene and half size oxygen tanks, including gas. \$325 925-447-6221

Gently used boys dress pants and jeans, 14 and 14 slim. He grew too fast to wear. 925-484-2173

Authentic Hummel figure collection. Many different figures. All in new condition in original boxes. Priced around \$50 each. 510-683-9433

Trailer Equipment Platform step -8 High,15 deep,19 wide. \$35.00 . Ladder mount Bike Rack, \$25.00. 925-447-9211

MOTORCYCLES

1970 - Honda Trail 70 good cond orig owner runs great lots of fun great for camping just riding 700.00 firm 209-531-1330

1999 - HD Sportster; 1200cc conversion, lowered, Dyna front end, much chrome. Nice! \$6,200 925-606-8763

2002 - Honda XR 650 R great bike with big power good shape extras 3000.00 Firm 925-337-0057

MUSIC INSTRUMENTS

Drums-Full Jr. set of Sunlites w/new skins 925-757-2166

PETS & SUPPLIES

Beautiful seal point siamese cat,spayed female,fully vaccinated , almost four years old,declawed needs to be indoor cat.very affectionate 209-833-8654

Purebred Black Laborador puppies born Dec 3rd for sale 925-516-2921

Nearly new hamster cage, multi-level deluxe model plus exercise ball, bedding, food. Just add hamster! \$15 for all. 925-371-1607

RECREATION EQUIPMENT

Beginner weight set and bench, 110 lbs. total, includes two barbells, \$25, 925-292-0348

Four pre-1964 Winchester .22 rifles (Models 62, 63, 64, and 69) in excellent to new condition, \$600-800 each. 925-846-1459

Large stand for both punching bag and speed bag, 80 lb punching bag, and gloves. Can email pictures. \$150. 209-832-5388

Nice snow boots, calf high, nylon uppers, felt liner, hard water proof bottoms, adult size 9-10, size 5-6 \$8 a piece. 925-449-1823

Camper, pop-up, Four Wheel brand, Grandby model, with extended stay water system for dry camping. \$4100 925-447-5194

RIDESHARING

Express your commute, call 2-RIDE for more information or visit <http://www-r.llnl.gov/tsmp>.

Brentwood - Nowhere to park?

Join our carpool and only think about it every 4th day. Start the New Year right! Join us in our carpool at Albertson. 925-516-2687, ext. 3-8927

Concord - Carpool from East Concord seeks 4th rider/driver. Meets near Pine Hollow/Ygnacio area, then 680 to 580. Lab hours 7:30am to 4:30pm. 925-672-6677, ext. 3-2153

Lodi - Core work hours 8:30 to 5:30 or 6:00. Some flexibility required (earlier some times, later some times). 209-368-5822, ext. 2-2729

Tracy - Wanted car/vanpool. I work 5, 8 hour days and am willing to adjust my work schedule to join a car/vanpool. 209-833-6398, ext. 2-3981

Orinda - Carpool from Lamorinda seeks 4th driver/rider. Meets at El Nido and Charles Hill in Orinda near St. Stephens+Hghwy 24. Lab hours 8am-4:45pm. 925-253-0498, ext. 2-9823

El Cerrito - Berkeley Vanpool has openings for full time or casual riders. M-F 7:45 am to 4:30 pm work schedule. 510-524-5769, ext. 3-7995.

SERVICES

Haircuts for kids at your place or daycare. Convenient and time saving. Licensed with 21 years experience. References available. 209-836-2137

TUTORING in high school and college math and chemistry. 925-443-2095

SHARED HOUSING

Discovery Bay - Master bedroom & bath, on deep water, includes use of kitchen, laundry & utilities except phone. No dogs, cats or smoking. \$650.00/mo. 925-634-8523

TRUCKS & TRAILERS

1993 - Nissan 4 x 4 Pickup. Regular cab, short bed, 5-speed, trailer hitch. Only 30k ACTUAL miles. Like NEW. \$4600.00 b/o. 925-674-8434

1990 - Bronco II,4X4,E.B.edition,great condition,good commuter, \$2300.00 o.b.o. 925-525-4210

2003 - campershell.Carbon metallic color. For GM or Chevy std. bed. Perfect cond. 1500. new asking \$750. 209-823-5199

1999 - Expedition, 4 X 4, 5.4L, XLT, leather, alloy wheels, new brakes, new tires, third row seat, certified service! \$12,000 OBO. 925-548-1553

1995 - CHEVY Z71 4X4 short bed. Loaded. W/Camper shell. White. 150K mi. Must see. \$9500.00 209-759-9797

DDLs

Continued from page 1

lecture, “Black Holes in the Cores of Nearby Galaxies,” was part of the Director’s Distinguished Lecturer Series.

Adaptive optics on the largest ground-based astronomical telescopes makes it possible for observers on the ground to compensate for the blurring caused by turbulence in the Earth’s atmosphere, and in some cases, to “see” as well as, if not better than, space-based observatories.

In NGC 6240, two disk galaxies are merging together. She said each galaxy had its own black hole. As the galaxies merge (which forms a sort of bow tie effect as seen in Hubble Space Telescope and Keck images), the black holes “are being fed by gas and junk in each galaxy.”

In Cygnus A, one of the most powerful radio galaxies, the black hole emits huge radio jets, X-rays, radio waves and radiation. Max said that Active Galactic Nuclei (AGNs) produce most of the energy in the universe’s X-ray background.

She also discussed whether starbursts (an area of high star birth) feed existing black holes and if starbursts become quasars (the very bright centers of distant galaxies, where energetic action is occurring, most probably due to the presence of a super massive black hole at the center).

“Mergers are where the action is in galaxy evolution,” Max said. “During mergers, gas is spewed all over the place. Mergers drive starbursts and AGNs drive galactic winds and jets,” serving as fuel for active



Claire Max

black holes.

Max said the adaptive optics system on Keck along with Hubble Space Telescope images confirm the core structure in AGNs.

“Adaptive optics created a revolution in ground-based astronomy,” she said. “It’s increased spatial resolution and opened up a door in vision science.” Scot Olivier of the Physics and Advanced Technologies Directorate is studying how adaptive optics can be used to compensate for the blurring effects of the human eye.

Max is a physicist at the Lab’s IGPP, professor of astronomy and astrophysics and director of the Center for Adaptive Optics at UC Santa Cruz.

HOME

Continued from page 1

“The race to the finish was as dramatic as any competition at the Summer Olympics,” said Al Moser, HOME Campaign chair. “In the case of the HOME Campaign, it was a team effort that allowed us to achieve our goal. Exceeding our goal is a fitting way for the Laboratory to mark the 30th anniversary of the

HOME Campaign.”

The total raised after all electronic and booklet pledges were processed late Tuesday, Dec. 14, was \$1,656,394. The percentage of employees participating this year was up slightly to 44.4 percent from 43.8 percent in 2003.

“Attaining our goal was made possible by Laboratory employees once again demonstrating their generosity and community spirit through donations and by volunteering time to a wide variety of non-profit endeavors,” Moser

said. “I would like to again thank all those who worked so hard to make the 2004 HOME Campaign a great success.”

This marks the sixth consecutive year that campaign donations surpassed \$1 million and brings the total funds raised for non-profits during the last decade more than \$12 million.

The first HOME Campaign as it exists today began in 1974 under the slogan “charity begins at home.” The HOME Campaign expanded a previously existing fund-raising effort to include local non-profit agencies.

NANOTECHNOLOGY

Continued from page 1

tion in Congress. He has set up this task force to promote California, especially the Bay Area, as the national and worldwide center for nanotechnology research, development, and commercialization.

“Investments and innovation in nanotechnology are vital now to keep California and the nation at the forefront of science and technology in the future,” Anastasio said. “The Laboratory is building it’s expertise in nanotechnology and I’m honored to serve on this task force to help identify technologies that could be transferred to the private sector.”

De Yoreo said he was likely selected to

serve on the task force because of his combined experience as a field researcher and a technical manager.

Other members of the task force come from local cities, universities, other laboratories and private industry.

The Laboratory has several strong focus areas in nanotechnology including the BioSecurity and Support Laboratory (BSSL) opened in the Chemistry and Materials Science Directorate under then Associate Director Hal Graboske. De Yoreo said the BSNL grew out of the BSSL.

BSNL is just one of three LLNL centers that work collaboratively to implement the Laboratory’s nanoscience strategy. BSNL focuses on nanoscience at the intersection of chemistry, biology, and materials, supports the Lab’s mission in bio-security and advances

fundamental understanding of life sciences.

Another center, the Quantum Simulations Group (QSG) combines high-end computers with cutting edge algorithms to accurately simulate new materials and devices, enhancing LLNL’s strategic national security missions.

The Nanoscale Synthesis and Characterization Laboratory (NSCL) supports multiple programs with initial focus on high energy density targets by using new designer materials, “bottoms up” synthesis and assembly, novel fabrication and atomic-scale characterization.

Laboratory work in nanoscience has generated more than 70 articles in *Nature*, *Science*, *Proceedings of the National Academy of Sciences* (PNAS), *Journal of the American Chemical Society* (JACS), *Physical Review Letters*, *Nanoletters*, *Nature Materials* and *Angewante Chemie*.

VISIT

Continued from page 1

Hartman; Timothy Coy, Missile Defense Administration; Robert Hood, director of Congressional Affairs, NNSA; and Lt. Co. Edward Rimback, legislative liaison of the U.S. Air Force.

Director Michael Anastasio provided a Lab overview to the congressmen, who were making their first visit to the Lab. The representatives were briefed on stockpile stewardship work and the National Ignition Facility by Anastasio, Defense and Nuclear Technologies Associate Director Bruce Goodwin and Ed Moses, NIF Program manager. The visit also included briefings on Advanced Simulation

Computing, intelligence and force protection, as well as a tour of NIF.

“The work we do is of critical importance to this House committee,” Executive Officer Ron Cochran said. “It’s almost impossible to overemphasize the value of having members of Congress and their staffs come out to visit and see first-hand the role we play in ensuring our national security.”

2004 - Mahindra compact tractor w/loader and box scraper. diesel, hydrostatic drive, PTO. 3 year warranty; tandem axle trailer. As new. \$13,000 for both. 925-606-8763

2002 - Chevrolet Silverado 1500 Extended Cab Short Bed 4x2, Red, A/C, AM/FM/CD, 58,000 miles, \$16,400 OBO 209-521-7702

1972 - Jeep CJ-5 lifted, engine solid, smog-exempt, needs body work. \$2500/OBO. 209-456-6947

MAUI Kihei oceanfront condo: ocean view, beautiful white sandy beach, snorkeling, pools, tennis, BBQ, whale

watching. Low LLNL rates. 925-846-1459

Perfect location for skiers! Tahoe cabin for rent 2 blocks from Heavenly. Sleeps approx 8 adults. \$400/wk, \$200/wknd. 925-240-1615

SOUTH LAKE TAHOE - 3Bed-room 2Bath Chalet, comfortably furnished, all

amenities,close to all skiing, Pre-christmas openings,RESERVE NOW FOR HOLIDAYS/SKIING! 209-599-4644

Maui, HI - Kahana Reef ocean-front 1BR/1BA condominium. Beautiful two-island view, oceanside pool, and BBQs. LLNL rates for year-round reservations. 925-449-0761

WANTED

Camper Shell for 2000 Chevy S10 Short Bed. Color or condition doesn't matter. 925-828-6737

Wanted: Spanish for Mastery Level 1 in good condition. 925-449-2038



THE BACK PAGE

RUSSIA

Continued from page 1

Production Association Electrochemical Plant (ECP) in the closed Siberian city of Zelenogorsk, about 3,500 miles east of Moscow.

Longworth and the U.S. delegation participated in a tour of the security upgrades and a ribbon cutting ceremony where he presented awards to U.S. and Russian project staff members for their work.

Earlier in the week, on Dec. 6, another U.S. delegation took part in a ceremony at the Urals Electrochemical Enrichment Plant (UEIP) in the closed city of Novouralsk, about 1,000 miles east of Moscow.

For the past decade, DOE and NNSA have provided assistance to Russia to secure nuclear material at the majority of that country's nuclear facilities, including nuclear research institutes, weapons complex sites, enrichment facilities and military nuclear storage facilities.

LLNL staff members have played important roles in the U.S.-Russian collaboration to beef up security at the two uranium enrichment facilities since 1997.

"Our mission has been to protect U.S. national security by aiding in preventing the theft of nuclear materials from Russian facilities," said Lab employee Lonnie Moore, project manager for the ECP upgrades for the past seven years.

"I've found that the Russian security management and their regulators are extremely pleased with the upgrades and our working relationships," Moore said. "We've worked with them in a very productive and collaborative manner."

Zelenogorsk's ECP is one of four Russian sites that downblend highly enriched or

weapons grade uranium into low enriched uranium for use in U.S. commercial power reactors under the U.S.-Russian Uranium Purchase Agreement. The facility also produces 30 percent of Russia's low enriched uranium fuel for its commercial power reactors.

An umbrella contract, or "master task agreement," was signed in 1997. One of the first follow-on contracts furnished radio communication systems for the Russian soldiers and guard force that protect ECP in Zelenogorsk.

As work proceeded, nuclear material control systems, including portal radiation monitors and hand-held metal detectors, were installed to detect the unauthorized removal of uranium.

Other upgrades featured computerized nuclear materials accounting systems, including bar code systems and tamper-indicating devices, to help detect theft; physical security, such as barriers, high security doors and vaults, and alarm and access control systems, to help protect against terrorist attacks; and secure vehicles, for moving materials and for protection of the guard forces.

Moore, who worked in the LLNL Security Department for 12 years in technical systems, physical security, investigations and the Protective Force Division, explained that his security background proved invaluable for collaborating with top ECP officials.

"At first, my Russian counterparts found that it was hard to believe that Americans were really there to help," Moore said. "Their views changed pretty rapidly, though, because they saw that we knew what we were talking about and that we went directly to providing important upgrades."

In addition to his professional relationships, the relationships Moore developed with Russian officials through social events and

dinner at their homes proved invaluable. Social relationships are an important way of developing trust and accomplishing business in Russia, he said.

Moore gave credit to employees from other national labs such as Oak Ridge, Los Alamos, Sandia, Brookhaven and Pacific Northwest, who served as project team members during different periods of time.

The steps taken to strengthen security at the ECP facility were very similar to those put in place at the UEIP facility. UEIP is a highly diversified enterprise that produces, among other commercial products, enriched uranium for commercial nuclear fuel.

LLNL employee Scott McAllister, now of Engineering, served as the project manager for security improvements at the UEIP facility in Novouralsk for four years, from 1997 to 2001.

"Early on, I met with UEIP's head of security, the plant director and others to discuss security areas needing improvement and then we proceeded to draw up and prioritize a list of projects," McAllister recalled.

"The Russians I worked with were very motivated to enhance their security capabilities. It was an excellent effort by both sides and I found the work very rewarding."

David Huizenga, NNSA's assistant deputy administrator for International Material Protection and Cooperation, led the U.S. delegation that toured UEIP and joined in a ribbon cutting ceremony. Huizenga presented awards to U.S. and Russian project staff members for their work.

Under current NNSA plans, the Materials Protection Control and Accounting Program will provide low levels of support to both sites to ensure the maintenance and operation of the upgraded systems until 2012.

Graduating in security



DAVID SCHWUEGLER/NEWSLINE

Safeguards and Security Associate Director Dave Leary congratulates recent graduates of the Protective Force Division's trainee academy in a ceremony Wednesday afternoon in the Bldg. 123 auditorium. Of 19 grads, the five security police officers (SPO)/2s spent 10 weeks learning institutional training, introduction and orientation, materials control and accountability, security, intermediate force, defensive tactics and firearms training. The 14 SPO/3s, who join the Special Response Team, spent an additional 240 hours honing their skills. All the new security police officers are now deployed in the field. Most await their Q clearances. The next academy begins Feb. 7, with hope of graduating 20 more SPO trainees.



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